

# TC-818

## SERVICE MANUAL

*E Model*



TC-818 is the cassette deck section in FH-818R.

Model Name Using Similar Mechanism	TC-WR808M
Tape Transport Mechanism Type	Deck A TCM-170RA1
	Deck B TCM-170RB7

### SPECIFICATIONS

Recording system      4-track 2-channel stereo  
Frequency response

Used cassette	
TYPE I (Sony HF-S)	40-13,000 Hz ( $\pm 3$ dB)
TYPE II (Sony UCX)	40-14,000 Hz ( $\pm 3$ dB)

Wow and flutter      0.1% WRMS  
                           $\pm 0.2\%$  (DIN)

#### Dimensions/Weight

Approx. 225 x 120 x 230 mm (8 $\frac{7}{8}$ x 4 $\frac{3}{4}$ x 9 $\frac{1}{8}$ inches)	Approx. 2.6kg (5 lb 12 oz) net
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\* incl. projecting parts and controls

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

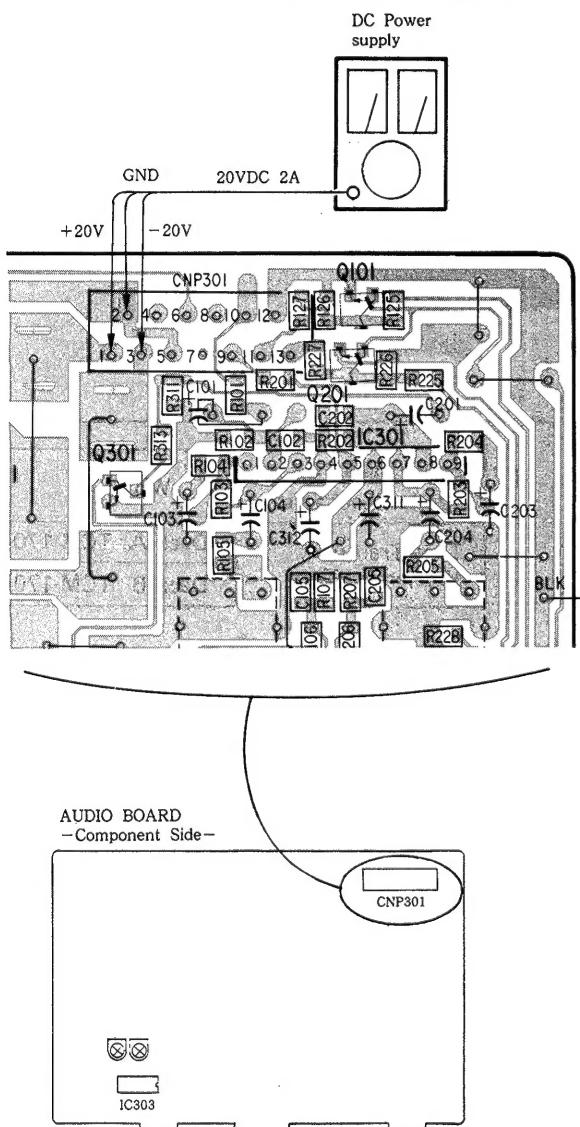
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**STEREO CASSETTE DECK**  
**SONY®**

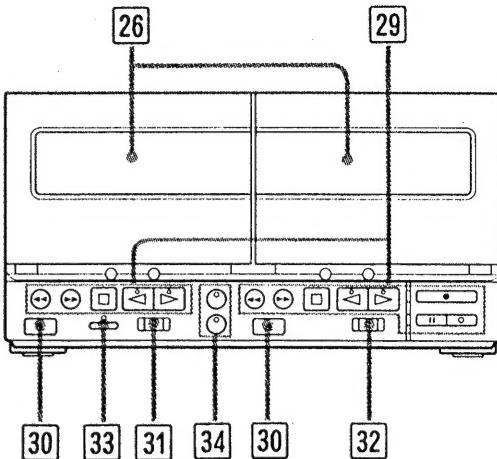
## REPAIRING PRECAUTION

## [To apply B+ voltage]

The power of this unit is fed from amplifier.  
Because of this, connect the DC Power supply as illustrated below when this unit alone operates.



## PARTS IDENTIFICATION



[26] Cassette holder

[29] Tape operation buttons

◀▶ : Fast winding

▷ : Forward play

◁ : Reverse play

[] : Stop

■ : Pause

○ : Record muting

● : Record

[30] ▲ EJECT button

[31] DIRECTION MODE selector

[32] DOLBY NR switch

[33] AMS/BLANK SKIP button

[34] DUBBING SPEED selectors

## SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

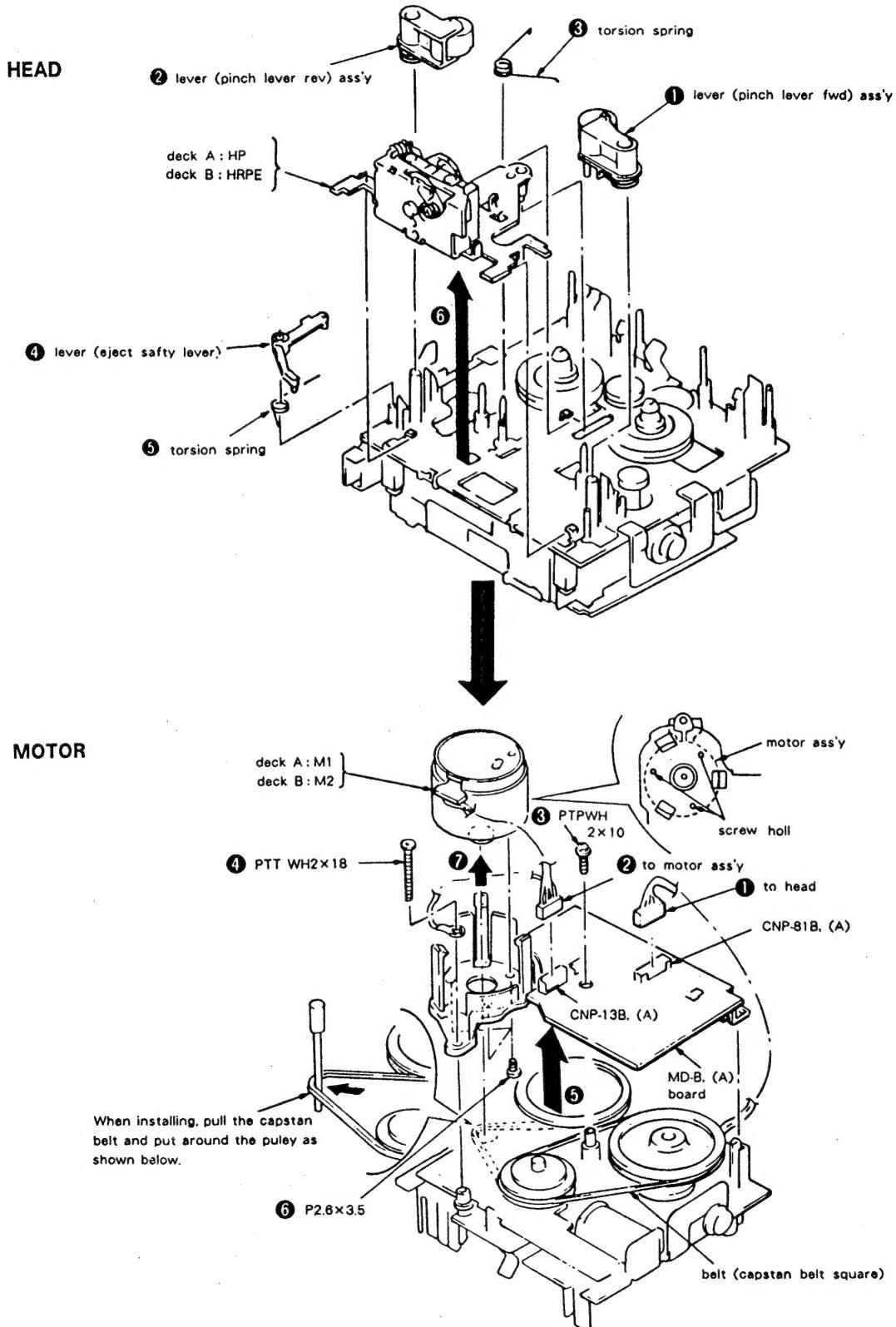
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# SECTION 1

## DISASSEMBLY

**Note :** Follow the disassembly procedure in the numerical order given.



## SECTION 2 ADJUSTMENTS

### 2-1. MECHANICAL ADJUSTMENTS

#### PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab :
 

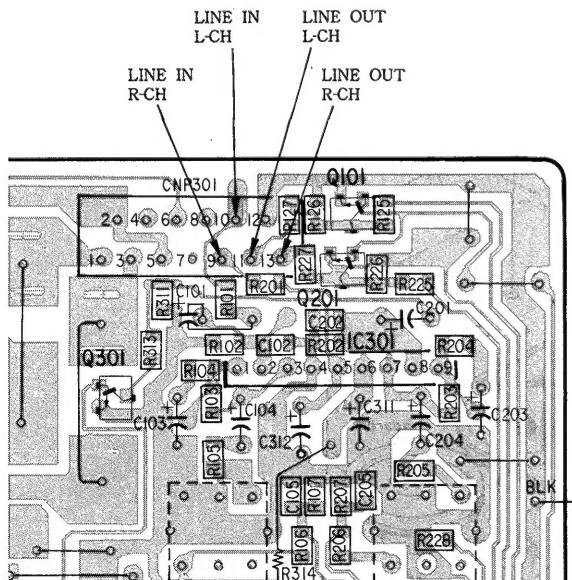
record/playback head	pinch roller
erase head	rubber belts
capstan	idler
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.

#### Torque Measurement

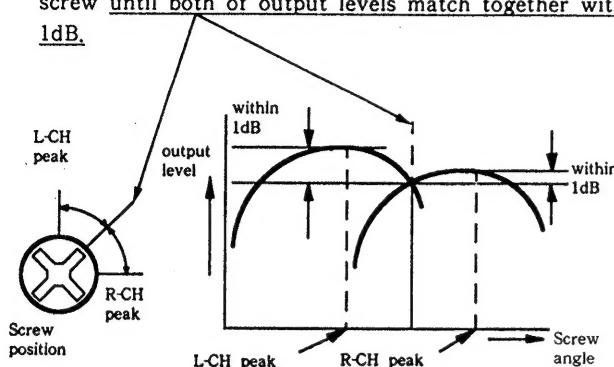
Torque	Torque Meter	Meter Reading
FWD	CQ-102C	27 to 75g·cm (0.378 to 1.05 oz·inch)
FWD Back tension	CQ-102C	1 to 10g·cm (0.014 to 0.14 oz·inch)
REV	CQ-102RC	27 to 75g·cm (0.378 to 1.05 oz·inch)
REV Back Tension	CQ-102RC	1 to 10g·cm (0.014 to 0.14 oz·inch)
FF, REW	CQ-201B	95 to 165g·cm (1.33 to 2.31 oz·inch)

#### • Location of LINE IN/OUT

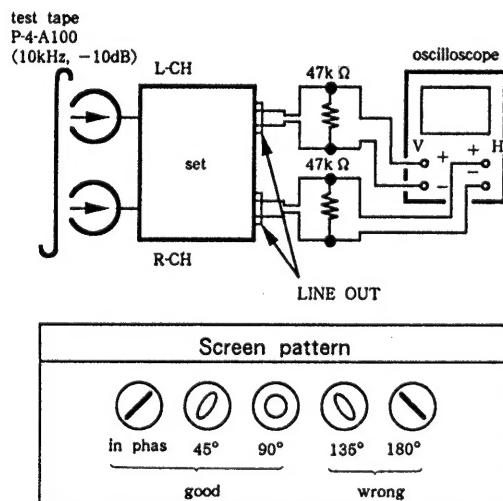
#### AUDIO Board CNP301



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.

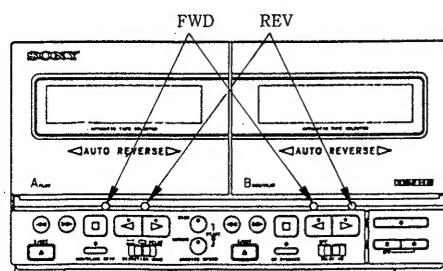
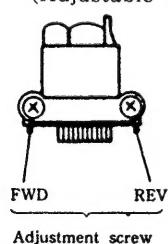


3. Phase Check  
Mode : playback



4. Set in the REV mode and repeat the step 1-3.  
5. After the adjustment, lock the screws with locking compound.

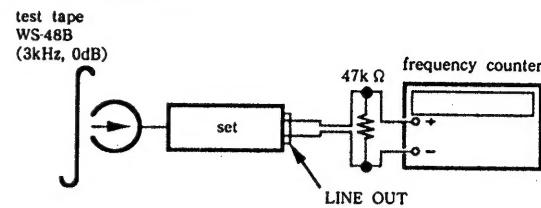
**Adjustment Location :** Record/Playback head  
(Adjustable without disassembly.)



### Tape Speed Adjustment **DECK A** **DECK B**

#### Procedure :

Mode : FWD playback



Perform high speed adjustment before normal speed adjustment.

Connect TP1 to ground with jumper wire and continue to press HIGH SPEED DUBING switch : High speed playback. After the high speed adjustment, remove jumper wire of TP1.

Play back the test tape WS-48B and adjust to meet the specifications below.

speed	deck	Adjustment part	variable resistor of motor	test pin CN811	frequency counter reading
high	A	M11A	(H)	short	$5,960 \pm 30$
	B	M11B	(H)		
normal	A	M11A	(L)	open	$2,980 \pm 15$
	B	M11B	(L)		

Frequency difference between the beginning and the end of the tape should be within 3%.

Frequency difference between deck A and deck B the beginning of the tape should be within 1.5%.

#### Adjustment Location :

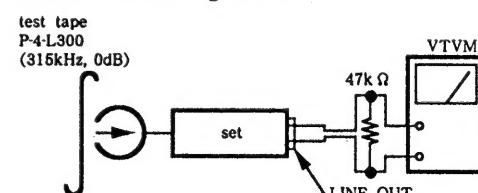
deck A : motor (M11A) rear side  
deck B : motor (M11B) rear side

### Playback Level Adjustment **DECK A** **DECK B**

#### Procedure :

Mode : playback

Connect TP1 to ground.



Adjust deck A : RV41A(L-CH), RV61A(R-CH) and deck B : RV41B(L-CH), RV61B(R-CH) so that the reading on VTV meets the specification below.

LINE OUT LEVEL :  $-10 \pm 0.8$  dB

Level difference between channels : less than 0.5dB  
Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

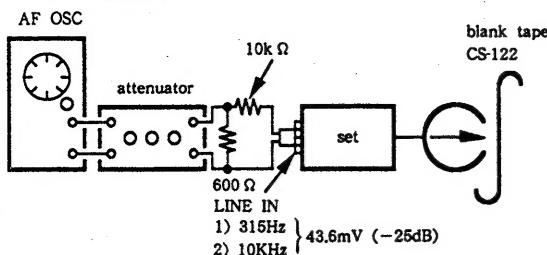
**Adjustment Location :** MD board

**Record Bias Adjustment DECK B****Setting :**

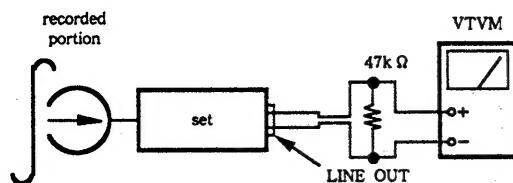
REC LEVEL control : standard record (See page 4.)  
Connect TP1 to ground.

**Procedure :**

1. Mode : record



2. Mode : playback



Confirm that the 10kHz playback output is  $0 \pm 0.5\text{dB}$  relative to the 315Hz output. If necessary, adjust RV42 (L-CH), RV62 (R-CH) and repeat the steps given above.

After the adjustment remove jumper wire of TP1.

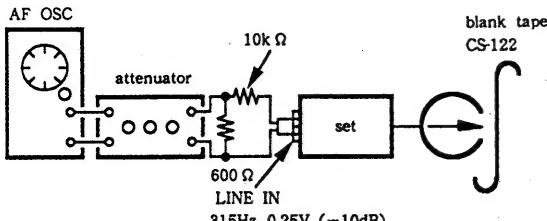
**Adjustment Location :** MD B board (US, Canadian model)  
HX PRO board (AEP, UK model)

**Record Level Adjustment DECK B****Setting :**

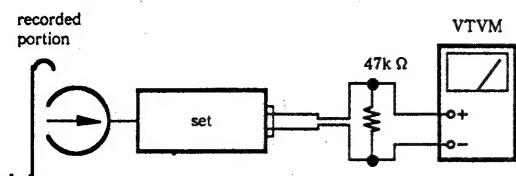
REC LEVEL control : standard record (See page 4.)  
Connect TP1 to ground.

**Procedure :**

1. Mode : record



2. Mode : playback



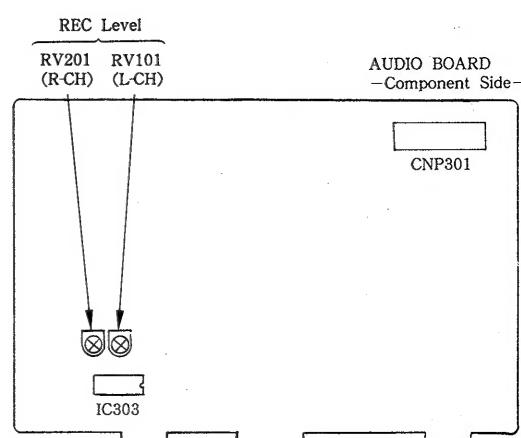
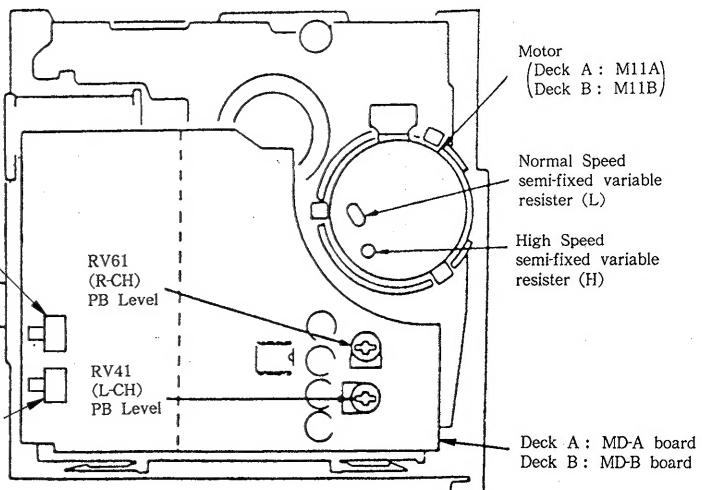
3. Play back the signal recorded in step 1.

Confirm that the signal level is within the specification below. If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the step 1-3.

4. After the adjustment, remove jumper wire of TP1.

LINE OUT level :  $-8\text{dB} \pm 0.5\text{dB}$

**Adjustment Location :** audio board

**—Adjusting Parts Location Diagram—**

## SECTION 3 DIAGRAMS

### 3-1. IC801 M50964-212FP PIN FUNCTIONS

PIN No.	PIN NAME	I/O	SIGNAL NAME	FUNCTION											
1	P62	O	A FWD	Deck A FWD LED output											
2	P61	O	BIAS IV	TYPE IV bias oscillation output											
3	P60	O	BIAS II	TYPE II bias oscillation output											
4	P47	O	A REV	Deck A RVS LED output											
5	P46	O	A REV	Deck A RVS LED output											
6	AN5	I	B HALF	Deck B Record prevention claw A, B detection input (Analogue)											
				Voltage (V)	1 V	1.9 V	2.8 V	3.9 V	5 V						
				Half	ON	ON	ON	ON	OFF						
				Claw A	OFF	ON	OFF	ON	OFF						
				Claw B	ON	ON	OFF	OFF	OFF						
7	AN4	I	KEY3	KEY input											
8	AN3	I	KEY2	Voltage (V)	0	0.3	0.7	1.2	1.7	2.3	2.8	3.4	4.0	4.5	5.0
				KEY1	B ■	B □	B ▶	B ◀	B ○	A ◁	A ▷			D B	D C OFF
9	AN2	I	KEY1	KEY2	A ■	A □	A ▶	A ◀		B ◁	B ▷	B ●	RELAY		
				KEY3	AMS		H DUB	N DUB							
10	P41	O	B FWD	Deck B FWD LED output											
11	P40	O	B REV	Deck B RVS LED output											
12	P37	O	A FWD	Deck A FWD LED output											
13	P36	O	B PAUSE	Deck B PAUSE LED output											
14	P35	O	B REC	Deck B REC LED output											
15	P34	O	DOLBY B/C	Dolby B/C output											
16	P33	O	DOLBY ON/OFF	Dolby ON/OFF output											
17	P32	I	SIRCS	SIRCS input or AUDIO BUS reverse input											
18	P31	O	70/120	Playback EQ output for playing deck											
19	P30	O	AUB OUT	AUDIO BUS output											
20	INTI	I	AUB IN	AUDIO BUS normal input											
24	CNVSS		CNVSS	GND											
25	RESET	I	RESET	Microcomputer reset input											
26	XIN	I	XIN	Clock input (4 MHz)											
27	XO	O	XO	Clock output (4 MHz)											
28	Φ	O	Φ	(Not used : OPEN)											
29	Vss		Vss	GND											
30	P57	I	TEST	Electrical adjusting test mode setting											
31	P56	I	TYPE IV	TYPE IV switch input											
32	P55	I	B70/120	Deck B TYPE II switch input											
33	P54	I	B SHUT	Deck B Reel table signal input											
34	P53	I	A70/120	Deck A TYPE II switch input											
35	P52	I	A SHUT	Deck B Reel table signal input											
36	P51	I	A HALF	Deck A Half switch input											
37	P50	I	AM SIN	AMS signal input											
39	P17	O	MMUTE	Meter mute output											
40	P16	O	LMUTE	Line mute output											
41	P15	O	PASS	PASS AMP change output											
42	P14	O	REC/PB	Dolby IC REC/PB select output											
43	P13	O	AMS/BS	AMS AMP characteristics change output											

PIN No.	PIN NAME	I/O	SIGNAL NAME	FUNCTION
44	P12	O	AMS A/ $\bar{B}$	AMS AMP input Deck A/B select output
45	P11	O	SEL A/ $\bar{B}$	Dolby IC PB input Deck A/B select output
46	P10	O	$\bar{BIAS}_I$	TYPE I bias oscillation output
47	P07	O	RELAY	REC/PB change relay output
48	P06	O	$\bar{PM}_B$	Deck B plunger hold output
49	P05	O	$\bar{KICK}_B$	Deck B plunger kick output
50	P04	O	$\bar{PM}_A$	Deck A plunger hold output
51	P03	O	$\bar{KICK}_A$	Deck A plunger kick output
52	P02	O	B H/ $\bar{L}$	Deck B capstan motor speed select
53	P01	O	A H/ $\bar{L}$	Deck A capstan motor speed select
54	P00	O	M ON/OFF	Capstan motor ON/OFF
56	P27	O	REC MUTE	REC MUTE output
57	P26	O	B SCHMITT	Deck B reel table schmitt output
58	P25	O	A SCHMITT	Deck A reel table schmitt output
59	P24	O	HDUB	High Speed Dubbing LED output
60	P23	O	$\bar{NDUB}$	Normal Speed Dubbing LED output
61	P22	O	CD DUB	Auto CD Synchro LED output
62	P21	O	A PAUSE	Deck A PAUSE LED output
63	P20	O	SIRCS/AUB	SIRCS/AUDIO BUS mode select
64	Vss		Vss	GND
67	Vcc		Vcc	POWER 5 ±0.5 V
68	AVSS		AVSS	Analogue system GND
69	VREF	I	VREF	Analogue system reference voltage input
70	D-A	O	D-A	D/A conversion output (Not used : OPEN)
71	PWM	O	PWM	PWM output (Not used : GND)
72	P63	O	AMS	AMS LED indication output

#### [TEST MODE]

When making pin ⑩ low (connect TP1 to ground with jumper wire), following function operates.

##### 1. Source monitor

Release the line mute while recording.

##### 2. High speed playback

On recording, while pressing HIGH SPEED (DUBBING) button, high speed playback operates.

##### 3. Record memory stop

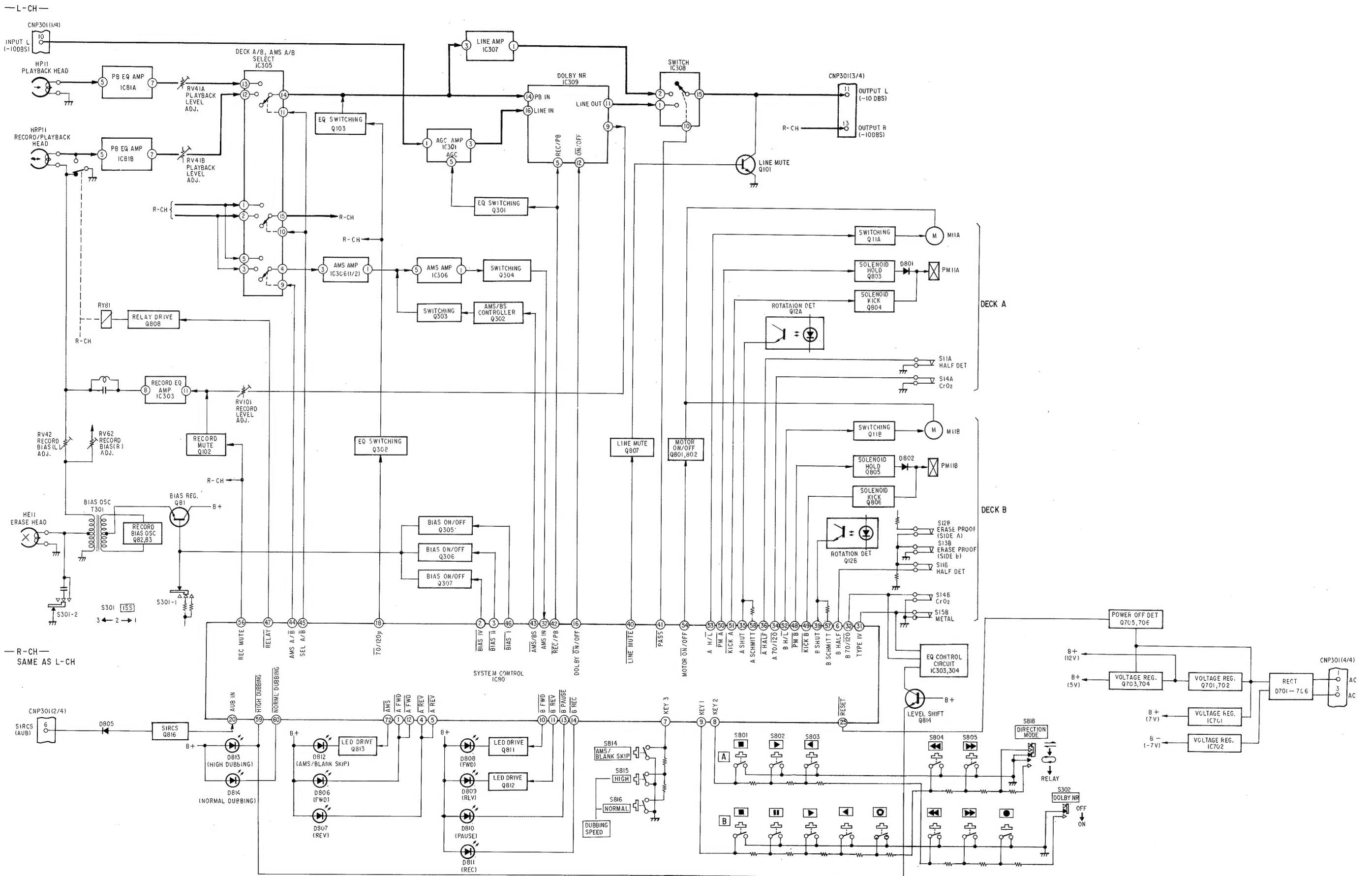
Using DIRECTION MODE switch ⇄, returns to the recording start point and stops or plays.

##### 4. LED indication of slide switch

When making Deck B pause, LED indicates the positions of DIRECTION MODE switch.

Switch	Position	LED
DIRECTION MODE	↔	Deck A ◀
	⟳	Deck A PLAY
MODE	RELAY	Deck A ▶
	NORM	Deck B ◀
	FADE	Deck B PLAY
	ERASE	Deck B ▶

### **3-2. BLOCK DIAGRAM**



### 3-3. PRINTED WIRING BOARDS

- See page 20 for Semiconductor Lead Layouts.

#### Note on Printed Wiring Boards:

- : parts extracted from the component side.
- : parts mounted on the conductor side.

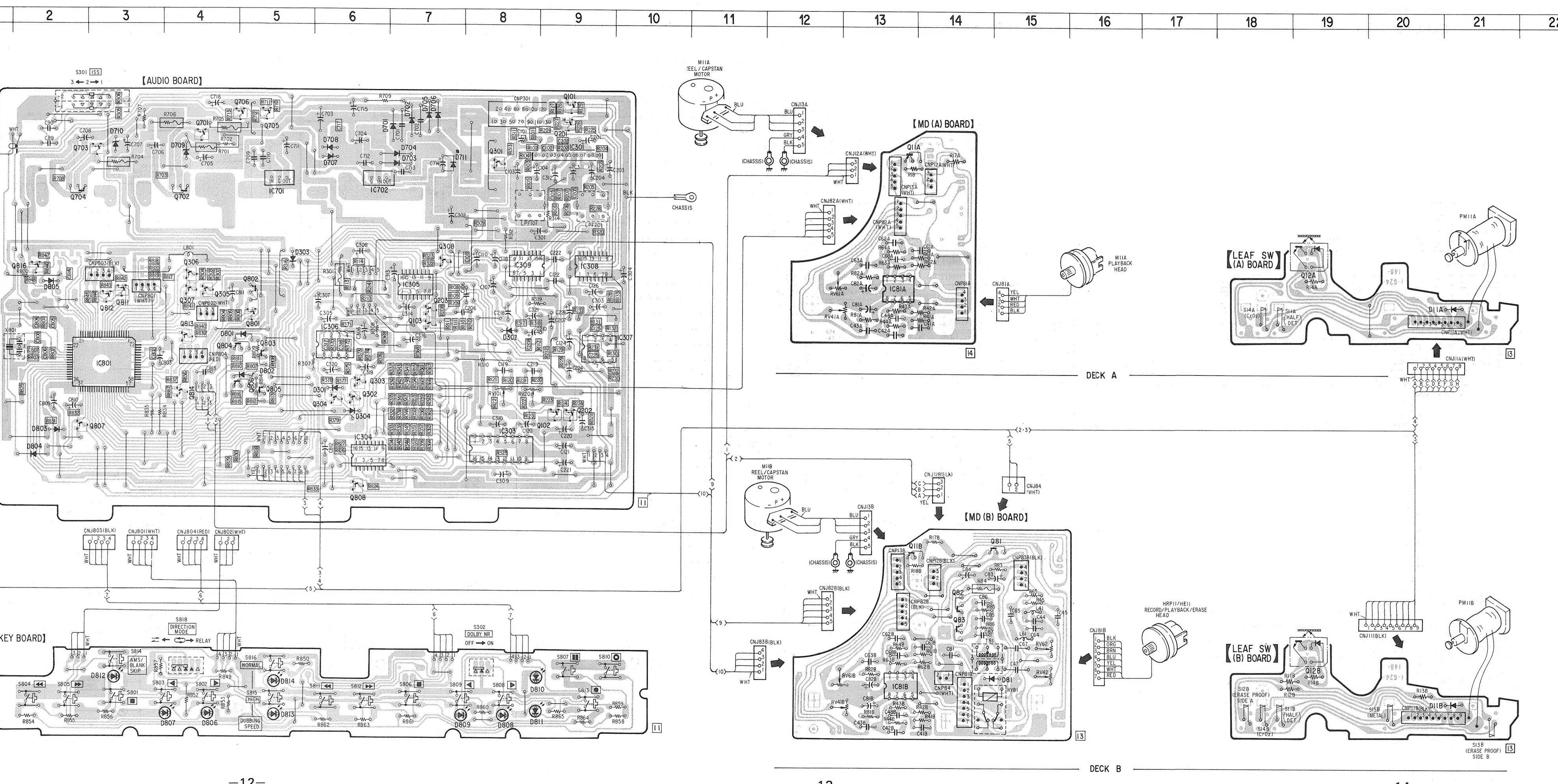
#### Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D11A	D-21	Q11A	B-13
D11B	I-21	Q11B	G-13
D81	I-15	Q12A	D-19
D301	E-6	Q12B	I-18
D302	E-8	Q81	G-15
D303	D-5	Q82	H-14
D304	F-6	Q83	H-14
D701	B-7	Q101	B-9
D702	B-7	Q102	F-9
D703	B-7	Q103	D-7
D704	B-7	Q201	B-9
D705	B-7	Q202	F-9
D706	B-7	Q203	D-7
D707	B-6	Q301	B-8
D708	B-6	Q302	E-6
D709	B-4	Q303	E-6
D710	B-3	Q304	E-6
D711	B-7	Q305	D-4
D801	E-5	Q306	D-4
D802	E-5	Q307	D-7
D803	F-2	Q308	D-7
D804	F-2	Q701	B-4
D805	D-2	Q702	C-4
D806	J-4	Q703	B-3
D807	J-4	Q704	C-2
D808	J-8	Q705	B-5
D809	J-7	Q706	B-5
D810	I-8	Q801	D-5
D811	J-8	Q802	D-5
D812	I-3	Q803	E-5
D813	J-5	Q804	E-5
D814	I-5	Q805	E-5
IC81A	D-13	Q807	F-2
IC81B	I-13	Q808	G-6
IC301	B-9	Q811	D-3
IC303	F-8	Q812	D-3
IC304	F-6	Q813	E-4
IC305	D-7	Q814	E-4
IC306	E-6	Q815	D-2
IC307	E-9	Q806	
IC308	D-9		
IC309	D-8		
IC701	C-5		
IC702	C-6		
IC801	E-3		

#### Note on Schematic Diagram:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
- : fusible resistor.
- : adjustment for repair.
- Power voltage is fed with supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark: REC
- ( ): PB
- Voltages are taken with a VOM (50  $\text{k}\Omega/\text{V}$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path:
  - : PB (DECK B)
  - : REC (DECK B)

Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.



A

A

B

B

C

C

D

D

E

E

F

F

G

G

H

H

I

I

J

J

K

K

L

L

M

M

N

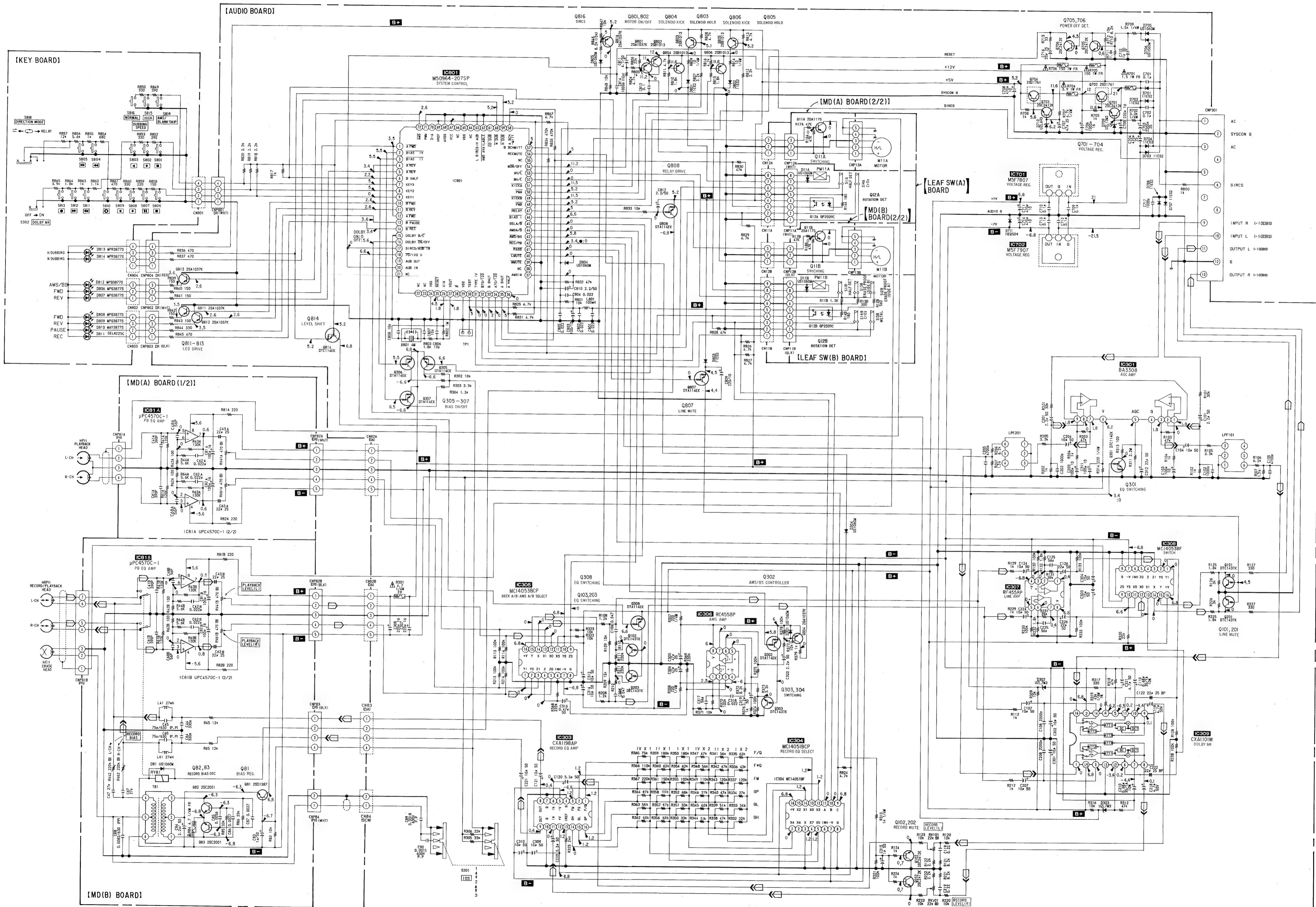
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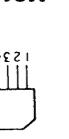
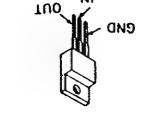
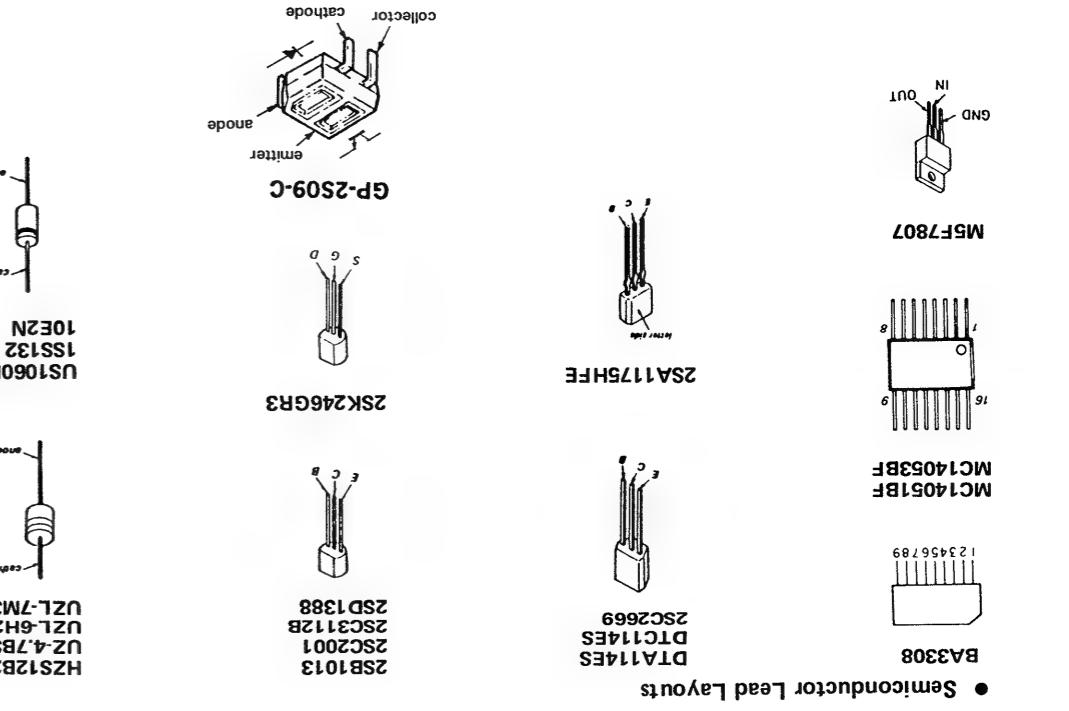
O

O

P

P





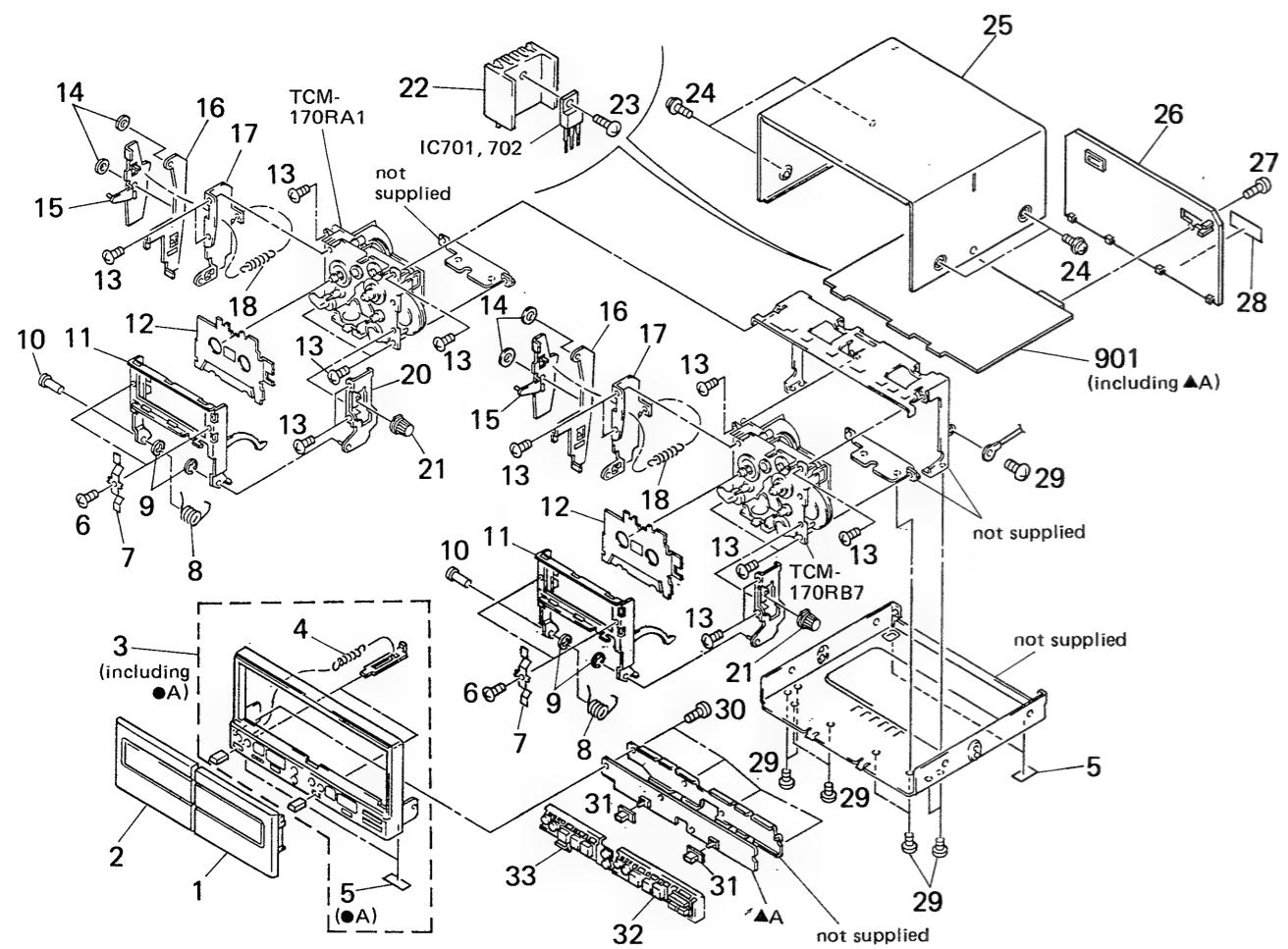
• Semiconductor Lead Layouts

## SECTION 4 EXPLODED VIEWS

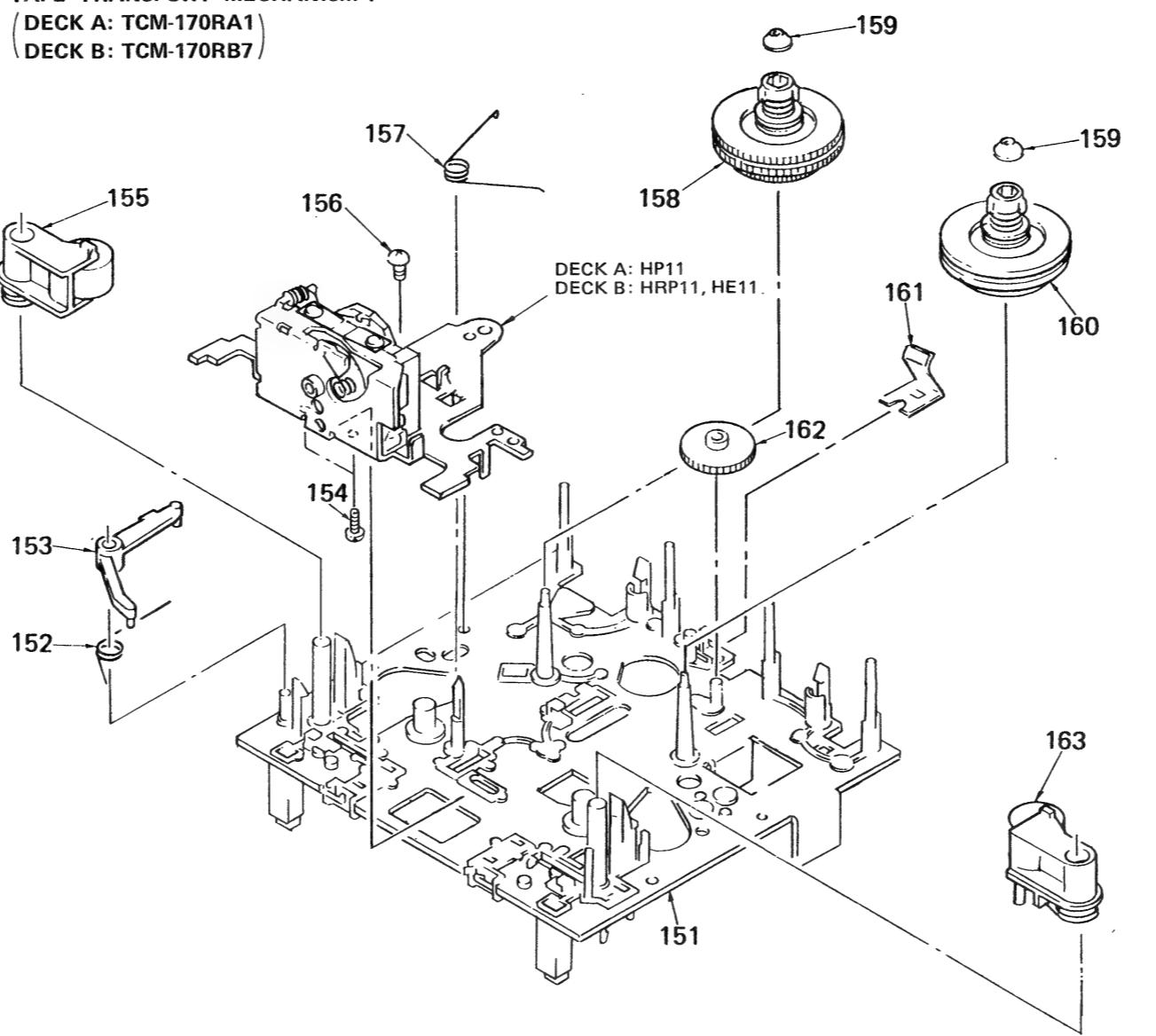
**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

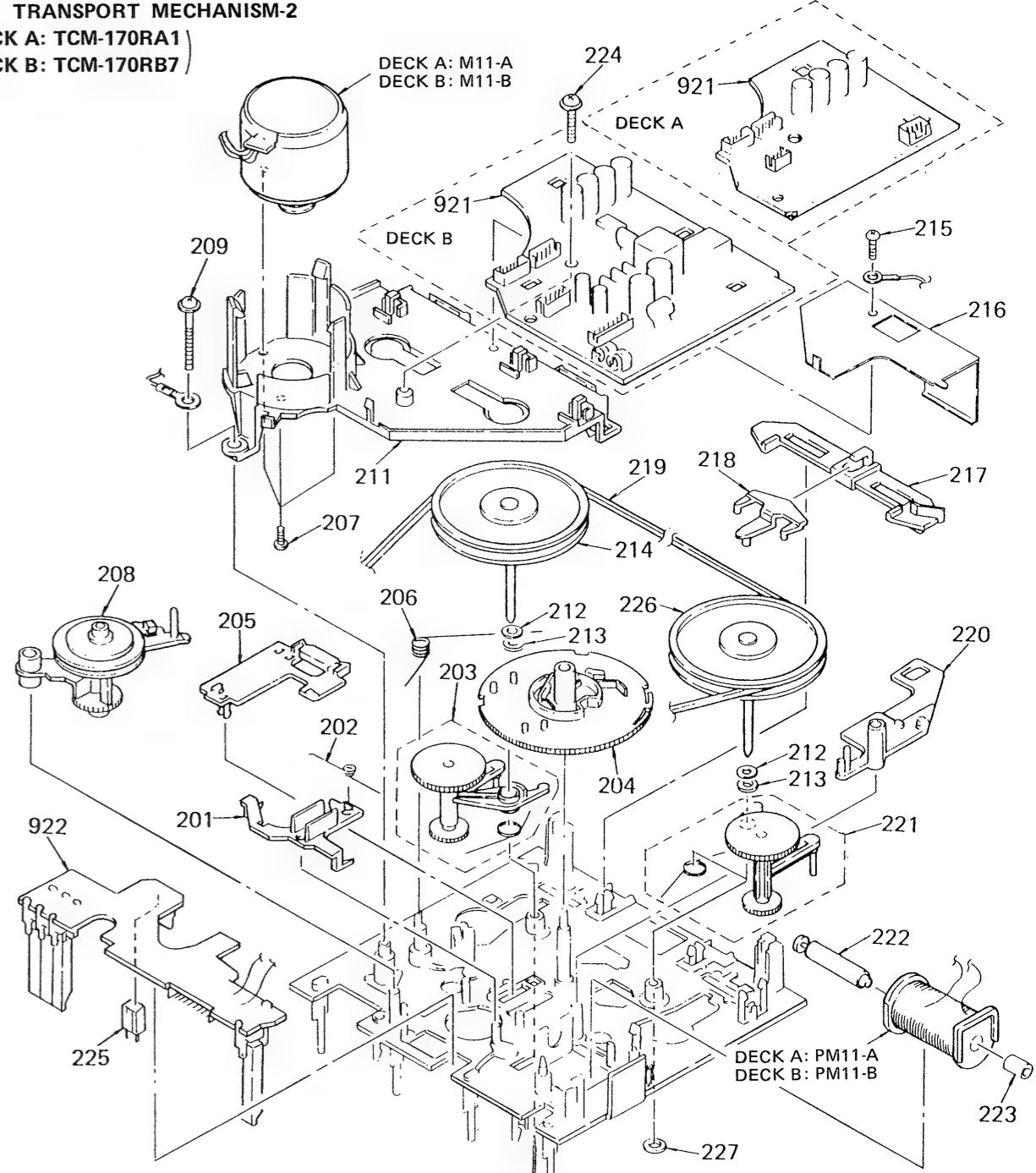
### (1) MAIN SECTION



(2) TAPE TRANSPORT MECHANISM-1  
(DECK A: TCM-170RA1)  
(DECK B: TCM-170RB7)



(3) TAPE TRANSPORT MECHANISM-2  
(DECK A: TCM-170RA1)  
(DECK B: TCM-170RB7)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	X-3340-151-1	LTD (B) ASSY, CASSETTE		20	*X-3332-494-1	BRACKET (R) ASSY	
2	X-3340-150-1	LTD (A) ASSY, CASSETTE		21	X-3332-464-1	GEAR (DAMPER) ASSY	
3	X-3340-154-1	PANEL ASSY, FRONT		22	*4-921-402-01	HEAT SINK	
4	3-567-110-00	SPRING, TENSION		23	7-685-646-79	SCREW +BVT 3X8 TYPE2 IT-3	
5	4-930-336-01	SCREW (FOOT (FELT))		24	7-104-366-01	SCREW (CASE) (M8X8)	
6	7-621-255-15	SCREW #PTT 2X3 (S)		25	4-930-355-31	CASE	
7	3-340-137-01	SPRING		26	*3-352-815-11	PANEL, BACK	
8	3-346-364-01	SPRING (LOADING), TORSION		27	7-685-647-79	SCREW +BVT 3X10 TYPE2 N-S	
9	7-624-105-04	RETAINING, RING E-2.3		28	*3-349-022-01	SCREW +BVT 3X5 (S)	
10	*3-346-334-01	SHAFT (HOLDER FITTING LEFT)		29	7-685-870-01	SCREW +BVT 3X5 (S)	
11	*3-340-150-01	HOLDER, CASSETTE		30	7-685-136-11	SCREW +PTP 2.6X12 TYPE2 N-S	
12	*3-340-123-01	RETAINER, CASSETTE		31	3-349-054-01	KNOB (SLIDE)	
13	7-621-773-86	SCREW +BVT 2.6X4 (S)		32	X-3340-153-1	BUTTON (B) ASSY	
14	3-558-708-21	WASHER, STOPPER		33	X-3340-152-1	BUTTON (A) ASSY	
15	*X-3332-465-1	LEVER (LOCK) ASSY		901	*A-2006-098-A	MAINTAINED PCB, AUDIO	
16	*3-340-142-01	LEVER (EJECT)		IC701	8-759-604-86	IC MSF7807	
17	*X-3332-466-1	BRACKET (LEFT) ASSY		IC702	8-759-604-90	IC MSF7907	
18	3-343-474-01	SPRING, TENSION					

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	*X-3343-418-1	CHASSIS ASSY, MECHANICAL		159	3-343-439-01	CAP (REEL TABLE)	
152	3-343-477-01	SPRING, TORSION (EJECT SAFETY)		160	X-3343-401-1	TABEL ASSY, REEL	
153	*3-343-476-01	LEVER (EJECT SAFETY LEVER)		161	3-343-420-01	SPRING, LEAF	
154	7-685-102-19	SCREW + 2X4 NON-SLIT TYPE 2		162	3-343-411-0	GEAR (FF GEAR)	
155	X-3343-403-1	LEVER (PINCH LEVER REV) ASSY		163	X-3343-402-1	LEVER (PINCH LEVER FWD) ASSY	
156	7-621-773-86	SCREW +BVT 2.6X4 (S)		HP11	A-2108-129-A	(DECK A)...CHASSIS ASSY, HEAD	
157	3-343-401-01	SPRING, TORSION		HP11	A-2108-130-A	(DECK B)...CHASSIS ASSY, HEAD	
158	*X-3343-415-1	TABEL (REV) ASSY, REEL		HE11			

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
201	3-343-453-01	SLIDER (BRAKE PLATE)		219	3-343-426-01	BELT (CAPSTAN BELT SQUARE)	
202	3-343-429-01	SPRING, TORSION		220	3-343-493-01	LEVER (PT LEVER)	
203	X-3343-405-1	LEVER (TU ARM REV) ASSY		221	X-3343-405-1	LEVER (TU ARM FWD) ASSY	
204	3-343-470-01	GEAR (CAM GEAR)		222	*3-343-425-01	ARBOR(MOVABLE IRON ARBOR),IRON	
205	*3-343-461-01	SLIDER		223	*3-343-424-01	ARBOR (FIXED IRON ARBOR), IRON	
206	3-343-430-01	SPRING, TORSION		224	3-343-404-01	SCREW (PTPH 2X10)	
207	7-627-556-28	SCREW + 2.6X3.5		225	*3-343-419-01	HOLDER (S SENSOR A)	
208	X-3343-414-1	LEVER (FR ARM) ASSY		226	X-3343-431-1	FLYWHEEL (REV) COMPLETE ASSY	
209	*3-343-403-01	SCREW (PTPH 2X10)		227	3-343-473-01	WASHER, NYLON	
211	*X-3343-407-1	BASE (THRUST RETAINER) ASSY		921	*1-624-146-11	(DECK B)...PC BOARD, MD-B	
212	4-605-835-11	WASHER (2.6), POLYSLIDER		921	*1-624-147-11	(DECK A)...PC BOARD, MD-A	
213	3-307-482-00	SCREW, LUMBER		922	*1-624-148-11	PC BOARD, LEAF SW	
214	X-3343-429-1	FLYWHEEL COMPLETE ASSY		M11A	X-3343-409-1	(DECK A)...MOTOR ASSY	
215	7-685-104-19	SCREW + 2X6 TYPE2 NON-SLIT		M11B	X-3343-408-1	(DECK B)...MOTOR ASSY	
216	3-343-480-01	PLATE, SHIELD		217	*3-343-457-01	SLIDER (REVERSE SLIDER)	
217	3-343-462-01	LEVER		218	3-343-462-01	LEVER	
PM11A	1-454-456-11	(DECK A)...SOLENOID, PLUNGER		PM11B	1-454-456-11	(DECK B)...SOLENOID, PLUNGER	

## SECTION 5

### ELECTRICAL PARTS LIST

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**MF:  $\mu$ F, PF:  $\mu\mu$ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

**COILS**

- MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**

In each case, U:  $\mu$ , for example:  
 UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,  
 UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

The components identified by mark  or dotted line with mark  are critical for safety.  
 Replace only with part number specified.

Ref.No.	Part No.	Description					Ref.No.	Part No.	Description				
901	*A-2006-098-A	_MOUNTED PCB, AUDIO					C105	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
921	*1-624-147-11	(DECK A)...PC BOARD, MD-A					C106	1-136-161-00	FILM	0.047MF	5%	50V	
	*1-624-146-11	(DECK B)...PC BOARD, MD-B					C107	1-123-875-11	ELECT	10MF	20%	50V	
922	*1-624-148-11	PC BOARD, LEAF SW					C108	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C41A	1-162-289-31	CERAMIC	390PF	10%	50V		C110	1-131-587-11	TANTALUM	0.68MF	10%	35V	
C41B	1-162-289-31	CERAMIC	390PF	10%	50V		C118	1-124-927-11	ELECT	4.7MF	20%	50V	
C42A	1-136-157-00	FILM	0.022MF	5%	50V		C119	1-136-169-00	FILM	0.22MF	5%	50V	
C42B	1-136-157-00	FILM	0.022MF	5%	50V		C120	1-124-927-11	ELECT	4.7MF	20%	50V	
C43A	1-124-282-00	ELECT	22MF	20%	25V		C121	1-123-875-11	ELECT	10MF	20%	50V	
C43B	1-124-282-00	ELECT	22MF	20%	25V		C122	1-124-282-00	ELECT	22MF	20%	25V	
C44	1-162-288-31	CERAMIC	330PF	10%	50V		C124	1-123-875-11	ELECT	10MF	20%	50V	
C45	1-136-273-91	FILM	75PF	5%	630V		C125	1-163-111-00	CERAMIC CHIP	56PF	5%	50V	
C47	1-162-209-31	CERAMIC	27PF	5%	50V		C126	1-126-233-11	ELECT	22MF	20%	50V	
C48A	1-162-217-31	CERAMIC	56PF	5%	50V		C201	1-124-925-11	ELECT	2.2MF	20%	50V	
C48B	1-162-217-31	CERAMIC	56PF	5%	50V		C202	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C61A	1-162-289-31	CERAMIC	390PF	10%	50V		C203	1-124-443-00	ELECT	100MF	20%	10V	
C61B	1-162-289-31	CERAMIC	390PF	10%	50V		C204	1-123-875-11	ELECT	10MF	20%	50V	
C62A	1-136-157-00	FILM	0.022MF	5%	50V		C205	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C62B	1-136-157-00	FILM	0.022MF	5%	50V		C206	1-136-161-00	FILM	0.047MF	5%	50V	
C63A	1-124-282-00	ELECT	22MF	20%	25V		C207	1-123-875-11	ELECT	10MF	20%	50V	
C63B	1-124-282-00	ELECT	22MF	20%	25V		C208	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C64	1-162-288-31	CERAMIC	330PF	10%	50V		C210	1-131-587-11	TANTALUM	0.68MF	10%	35V	
C65	1-136-273-91	FILM	75PF	5%	630V		C218	1-124-927-11	ELECT	4.7MF	20%	50V	
C67	1-162-209-31	CERAMIC	27PF	5%	50V		C219	1-136-169-00	FILM	0.22MF	5%	50V	
C68A	1-162-217-31	CERAMIC	56PF	5%	50V		C220	1-124-927-11	ELECT	4.7MF	20%	50V	
C68B	1-162-217-31	CERAMIC	56PF	5%	50V		C221	1-123-875-11	ELECT	10MF	20%	50V	
C81A	1-126-101-11	ELECT	100MF	20%	16V		C222	1-124-282-00	ELECT	22MF	20%	25V	
C81B	1-126-101-11	ELECT	100MF	20%	16V		C224	1-123-875-11	ELECT	10MF	20%	50V	
C82A	1-126-101-11	ELECT	100MF	20%	16V		C225	1-163-111-00	CERAMIC CHIP	56PF	5%	50V	
C82B	1-126-101-11	ELECT	100MF	20%	16V		C226	1-124-233-11	ELECT	22MF	20%	50V	
C83	1-124-499-11	ELECT	1MF	20%	50V		C301	1-123-875-11	ELECT	10MF	20%	50V	
C84	1-124-925-11	ELECT	2.2MF	20%	50V		C302	1-123-875-11	ELECT	10MF	20%	50V	
C85	1-130-480-00	MYLAR	0.0056MF	5%	50V		C303	1-123-875-11	ELECT	10MF	20%	50V	
C86	1-130-476-00	MYLAR	0.0027MF	5%	50V		C304	1-123-875-11	ELECT	10MF	20%	50V	
C87	1-130-476-00	MYLAR	0.0027MF	5%	50V		C305	1-124-477-11	ELECT	4.7MF	20%	25V	
C88	1-136-562-11	FILM	0.0082MF	5%	630V		C306	1-124-477-11	ELECT	4.7MF	20%	25V	
C89	1-136-554-11	FILM	0.0018MF	5%	630V		C307	1-124-120-11	ELECT	220MF	20%	16V	
C90	1-136-553-11	FILM	0.0015MF	5%	630V		C308	1-124-120-11	ELECT	220MF	20%	16V	
C101	1-124-925-11	ELECT	2.2MF	20%	50V		C309	1-123-875-11	ELECT	10MF	20%	50V	
C102	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V		C310	1-123-875-11	ELECT	10MF	20%	50V	
C103	1-124-443-00	ELECT	100MF	20%	10V		C311	1-124-443-00	ELECT	100MF	20%	10V	
C104	1-123-875-11	ELECT	10MF	20%	50V		C312	1-126-233-11	ELECT	22MF	20%	50V	
							C313	1-123-875-11	ELECT	10MF	20%	50V	
							C314	1-123-875-11	ELECT	10MF	20%	50V	
							C315	1-124-499-11	ELECT	1MF	20%	50V	

Ref.No.	Part No.	Description					Ref.No.	Part No.	Description				
C316	1-124-902-00	ELECT	0.47MF	20%	50V		D11A	8-719-107-94	DIODE	ISS132			
C317	1-163-111-00	CERAMIC CHIP	56PF	5%	50V		D11B	8-719-107-94	DIODE	ISS132			
C318	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V		D81	8-719-107-94	DIODE	ISS132			
C319	1-124-925-11	ELECT	2.2MF	20%	50V		D301	8-719-000-26	DIODE	US1060M			
C320	1-124-925-11	ELECT	2.2MF	20%	50V		D302	8-719-000-90	ZENER DIODE	UZL-7M3			
C321	1-124-927-11	ELECT	4.7MF	20%	50V		D303	8-719-000-90	ZENER DIODE	UZL-7M3			
C701	1-164-159-11	CERAMIC	0.1MF		50V		D304	8-719-000-26	DIODE	US1060M			
C702	1-164-159-11	CERAMIC	0.1MF		50V		D701	8-719-200-02	DIODE	10E2			
C703	1-124-563-11	ELECT	2200MF	20%	25V		D702	8-719-200-02	DIODE	10E2			
C704	1-124-480-11	ELECT	470MF	20%	25V		D703	8-719-200-02	DIODE	10E2			
C705	1-124-120-11	ELECT	220MF	20%	16V		D704	8-719-200-02	DIODE	10E2			
C706	1-124-360-00	ELECT	1000MF	20%	16V		D705	8-719-000-26	DIODE	US1060M			
C707	1-124-477-11	ELECT	47MF	20%	25V		D706	8-719-000-26	DIODE	US1060M			
C708	1-124-472-11	ELECT	470MF	20%	10V		D707	8-719-200-02	DIODE	10E2			
C709	1-164-159-11	CERAMIC	0.1MF		50V		D708	8-719-200-02	DIODE	10E2			
C710	1-164-159-11	CERAMIC	0.1MF		50V		D709	8-719-933-77	ZENER DIODE	HZS1282L			
C711	1-124-472-11	ELECT	470MF	20%	10V		D710	8-719-000-69	ZENER DIODE	UZL-6H2			
C712	1-164-159-11	CERAMIC	0.1MF		50V		D711	1-807-913-21	DIODE	11EQS04			
C713	1-164-159-11	CERAMIC	0.1MF		50V		D801	8-719-200-02	DIODE	10E2			
C714	1-124-472-11	ELECT	470MF	20%	10V		D802	8-719-200-02	DIODE	10E2			
C715	1-124-499-11	ELECT	1MF	20%	50V		D803	8-719-200-02	DIODE	10E2			
C716	1-124-482-11	ELECT	33MF	20%	25V		D804	8-719-000-26	DIODE	US1060M			
C717	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V		D805	8-719-000-26	DIODE	US1060M			
C801	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V		D806	8-719-942-15	LED	MPG3877S			
C802	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V		D807	8-719-942-15	LED	MPG3877S			
C803	1-124-443-00	ELECT	100MF	20%	10V		D808	8-719-942-15	LED	MPG3877S			
C804	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V		D809	8-719-942-15	LED	MPG3877S			
C805	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V		D810	8-719-942-14	LED	MAY3877S			
C806	1-163-093-00	CERAMIC CHIP	10PF	5%	50V		D811	8-719-942-17	LED	MPR3877S			
C807	1-163-093-00	CERAMIC CHIP	10PF	5%	50V		D812	8-719-942-15	LED	MPG3877S			
C808	1-163-093-00	CERAMIC CHIP	10PF	5%	50V		D813	8-719-942-17	LED	MPR3877S			
C809	1-126-176-11	ELECT	220MF	20%	10V		D814	8-719-942-17	LED	MPR3877S			
C810	1-124-925-11	ELECT	2.2MF	20%	50V		HP11	A-2108-129-A	(DECK A)...CHASSIS ASSY, HEAD				
C811	1-124-927-11	ELECT	4.7MF	20%	50V		HRP11	A-2108-130-A	(DECK B)...CHASSIS ASSY, HEAD				
C812	1-124-925-11	ELECT	2.2MF	20%	50V		HE11						
C813	1-164-159-11	CERAMIC	0.1MF		50V		IC81A	8-759-111-44	IC	UPC4570C-1			
C814	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V		IC81B	8-759-111-44	IC	UPC4570C-1			
CNP11A*1-564-501-11	PIN, CONNECTOR 8P						IC301	8-759-939-73	IC	BA3308			
CNP11B*1-506-615-11	PIN, CONNECTOR 9P						IC303	8-752-033-61	IC	CXA1198AP			
CNP12A*1-564-337-00	PIN, CONNECTOR 3P						IC304	8-759-009-05	IC	MC14051BF			
CNP12B*1-564-337-61	PIN, CONNECTOR 3P						IC305	8-759-009-07	IC	MC14053BF			
CNP13A*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P						IC306	8-759-945-58	IC	RC4558P			
CNP13B*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P						IC307	8-759-945-58	IC	RC4558P			
CNP81A*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P						IC308	8-759-009-07	IC	MC14053BF			
CNP81B*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P						IC309	8-752-032-05	IC	CXA1101M			
CNP82A*1-564-339-00	PIN, CONNECTOR 5P						IC701	8-759-604-86	IC	M5F7807			
CNP82B*1-564-339-61	PIN, CONNECTOR 5P						IC702	8-759-604-90	IC	M5F7907			
CNP83 *1-564-338-61	PIN, CONNECTOR 4P						IC801	8-759-632-53	IC	M50964-212FP			
CNP84 *1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P						L41	1-410-780-11	INDUCTOR	27MMH			
CNP301*1-565-291-11	SOCKET, CONNECTOR 13P						L61	1-410-780-11	INDUCTOR	27MMH			
CNP801*1-564-338-00	PIN, CONNECTOR 4P						L801	1-408-080-00	INDUCTOR	100UH			
CNP802*1-564-337-00	PIN, CONNECTOR 3P						LPF101	1-236-087-11	FILTER, LOW PASS				
CNP803*1-564-338-61	PIN, CONNECTOR 4P						LPF201	1-236-087-11	FILTER, LOW PASS				
CNP804*1-564-338-71	PIN, CONNECTOR 4P						M11A	X-3343-408-1	(DECK A)...MOTOR ASSY				
							M11B	X-3343-408-1	(DECK B)...MOTOR ASSY				

Ref.No.	Part No.	Description
PM1A	1-454-456-11	(DECK A)...SOLENOID, PLUNGER
PM1B	1-454-456-11	(DECK B)...SOLENOID, PLUNGER
Q11A	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q11B	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q12A	8-719-939-23	PHOTO TRANSISTOR GP2S09-C
Q12B	8-719-939-23	PHOTO TRANSISTOR GP2S09-C
Q81	8-729-111-29	TRANSISTOR 2SD1388
Q82	8-729-100-13	TRANSISTOR 2SC2001
Q83	8-729-100-13	TRANSISTOR 2SC2001
Q101	8-729-900-98	TRANSISTOR DTC143TK
Q102	8-729-103-16	TRANSISTOR 2SC1622A
Q103	8-729-900-98	TRANSISTOR DTC143TK
Q201	8-729-900-98	TRANSISTOR DT143TK
Q202	8-729-103-16	TRANSISTOR 2SC1622A
Q203	8-729-900-98	TRANSISTOR DT143TK
Q301	8-729-900-53	TRANSISTOR DTC114EK
Q302	8-729-901-04	TRANSISTOR DTA114EK
Q303	8-729-900-98	TRANSISTOR DTC143TK
Q304	8-729-100-76	TRANSISTOR 2SA812-M6
Q305	8-729-901-04	TRANSISTOR DTA114EK
Q306	8-729-901-04	TRANSISTOR DTA114EK
Q307	8-729-901-04	TRANSISTOR DTA114EK
Q308	8-729-901-04	TRANSISTOR DTA114EK
Q701	8-729-103-16	TRANSISTOR 2SC1622A
Q702	8-729-904-27	TRANSISTOR 2SD1761-E
Q703	8-729-103-16	TRANSISTOR 2SC1622A
Q704	8-729-904-27	TRANSISTOR 2SD1761-E
Q705	8-729-103-16	TRANSISTOR 2SC1622A
Q706	8-729-103-16	TRANSISTOR 2SC1622A
Q801	8-729-100-76	TRANSISTOR 2SA812-M6
Q802	8-729-801-83	TRANSISTOR 2SB1013
Q803	8-729-801-83	TRANSISTOR 2SB1013
Q804	8-729-801-83	TRANSISTOR 2SB1013
Q805	8-729-801-83	TRANSISTOR 2SB1013
Q806	8-729-801-83	TRANSISTOR 2SB1013
Q807	8-729-901-04	TRANSISTOR DTA114EK
Q808	8-729-901-04	TRANSISTOR DTA114EK
Q811	8-729-100-76	TRANSISTOR 2SA812-M6
Q812	8-729-100-76	TRANSISTOR 2SA812-M6
Q813	8-729-100-76	TRANSISTOR 2SA812-M6
Q814	8-729-900-53	TRANSISTOR DTC114EK
Q816	8-729-100-76	TRANSISTOR 2SA812-M6
R11B	1-247-834-11	CARBON 1.3K 5% 1/4W
R12B	1-249-414-11	CARBON 560 5% 1/4W
R13B	1-247-818-11	CARBON 300 5% 1/4W
R14A	1-249-408-11	CARBON 180 5% 1/4W
R14B	1-249-408-11	CARBON 180 5% 1/4W
R17A	1-249-437-11	CARBON 47K 5% 1/4W
R17B	1-249-437-11	CARBON 47K 5% 1/4W
R18A	1-249-437-11	CARBON 47K 5% 1/4W
R18B	1-249-437-11	CARBON 47K 5% 1/4W
R41A	1-247-881-00	CARBON 120K 5% 1/4W
R41B	1-247-881-00	CARBON 120K 5% 1/4W
R42A	1-249-405-11	CARBON 100 5% 1/4W
R42B	1-249-405-11	CARBON 100 5% 1/4W

Ref.No.	Part No.	Description
R43A	1-247-882-11	CARBON 130K 5% 1/4W
R43B	1-247-882-11	CARBON 130K 5% 1/4W
R44A	1-249-426-11	CARBON 5.6K 5% 1/4W
R44B	1-249-426-11	CARBON 5.6K 5% 1/4W
R45	1-249-430-11	CARBON 12K 5% 1/4W
R61A	1-247-881-00	CARBON 120K 5% 1/4W
R61B	1-247-881-00	CARBON 120K 5% 1/4W
R62A	1-249-405-11	CARBON 100 5% 1/4W
R62B	1-249-405-11	CARBON 100 5% 1/4W
R63A	1-247-882-11	CARBON 130K 5% 1/4W
R63B	1-247-882-11	CARBON 130K 5% 1/4W
R64A	1-249-426-11	CARBON 5.6K 5% 1/4W
R64B	1-249-426-11	CARBON 5.6K 5% 1/4W
R65	1-249-430-11	CARBON 12K 5% 1/4W
R81A	1-249-409-11	CARBON 220 5% 1/4W
R81B	1-249-409-11	CARBON 220 5% 1/4W
R82A	1-249-409-11	CARBON 220 5% 1/4W
R82B	1-249-409-11	CARBON 220 5% 1/4W
R83	1-249-429-11	CARBON 10K 5% 1/4W
R84	▲1-212-849-00	FUSIBLE 4.7 5% 1/4W F
R85	1-249-435-11	CARBON 33K 5% 1/4W
R86	1-249-435-11	CARBON 33K 5% 1/4W
R101	1-216-084-00	METAL GLAZE 30K 5% 1/10W
R102	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R103	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R104	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R105	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R106	1-216-068-00	METAL GLAZE 6.2K 5% 1/10W
R107	1-216-043-00	METAL GLAZE 560 5% 1/10W
R108	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W
R109	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R110	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R111	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R112	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R113	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R114	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R120	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R121	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W
R122	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R123	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R124	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R125	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R126	1-216-060-00	METAL GLAZE 3K 5% 1/10W
R127	1-216-037-00	METAL GLAZE 330 5% 1/10W
R128	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R129	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R130	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R131	1-216-748-11	METAL GLAZE 39K 5% 1/10W
R132	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R133	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R201	1-216-084-00	METAL GLAZE 30K 5% 1/10W
R202	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R203	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R204	1-216-049-00	METAL GLAZE 1K 5% 1/10W

Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description					Ref.No.	Part No.	Description			
R205	1-216-061-00	METAL GLAZE	3.3K	5%	1/1OW		R342	1-216-089-00	METAL GLAZE	47K	5%	1/1OW
R206	1-216-068-00	METAL GLAZE	6.2K	5%	1/1OW		R343	1-216-099-00	METAL GLAZE	120K	5%	1/1OW
R207	1-216-043-00	METAL GLAZE	560	5%	1/1OW		R344	1-216-091-00	METAL GLAZE	56K	5%	1/1OW
R208	1-216-051-00	METAL GLAZE	1.2K	5%	1/1OW		R345	1-216-093-00	METAL GLAZE	68K	5%	1/1OW
R209	1-216-077-00	METAL GLAZE	15K	5%	1/1OW		R346	1-216-084-00	METAL GLAZE	30K	5%	1/1OW
R210	1-216-055-00	METAL GLAZE	1.8K	5%	1/1OW		R347	1-216-089-00	METAL GLAZE	47K	5%	1/1OW
R211	1-216-105-00	METAL GLAZE	220K	5%	1/1OW		R348	1-216-091-00	METAL GLAZE	56K	5%	1/1OW
R212	1-216-049-00	METAL GLAZE	1K	5%	1/1OW		R349	1-216-098-00	METAL GLAZE	110K	5%	1/1OW
R213	1-216-097-00	METAL GLAZE	100K	5%	1/1OW		R350	1-216-085-00	METAL GLAZE	33K	5%	1/1OW
R214	1-216-097-00	METAL GLAZE	100K	5%	1/1OW		R351	1-216-085-00	METAL GLAZE	33K	5%	1/1OW
R220	1-216-073-00	METAL GLAZE	10K	5%	1/1OW		R352	1-216-093-00	METAL GLAZE	68K	5%	1/1OW
R221	1-216-071-00	METAL GLAZE	8.2K	5%	1/1OW		R353	1-216-103-00	METAL GLAZE	180K	5%	1/1OW
R222	1-216-057-00	METAL GLAZE	2.2K	5%	1/1OW		R354	1-216-092-00	METAL GLAZE	62K	5%	1/1OW
R223	1-216-073-00	METAL GLAZE	10K	5%	1/1OW		R355	1-216-097-00	METAL GLAZE	100K	5%	1/1OW
R224	1-216-049-00	METAL GLAZE	1K	5%	1/1OW		R356	1-216-092-00	METAL GLAZE	62K	5%	1/1OW
R225	1-216-055-00	METAL GLAZE	1.8K	5%	1/1OW		R357	1-216-088-00	METAL GLAZE	43K	5%	1/1OW
R226	1-216-060-00	METAL GLAZE	3K	5%	1/1OW		R358	1-216-097-00	METAL GLAZE	100K	5%	1/1OW
R227	1-216-037-00	METAL GLAZE	330	5%	1/1OW		R359	1-216-102-00	METAL GLAZE	160K	5%	1/1OW
R228	1-216-097-00	METAL GLAZE	100K	5%	1/1OW		R360	1-216-093-00	METAL GLAZE	68K	5%	1/1OW
R229	1-216-049-00	METAL GLAZE	1K	5%	1/1OW		R361	1-216-105-00	METAL GLAZE	220K	5%	1/1OW
R230	1-216-097-00	METAL GLAZE	100K	5%	1/1OW		R362	1-216-092-00	METAL GLAZE	62K	5%	1/1OW
R231	1-216-748-11	METAL GLAZE	39K	5%	1/1OW		R363	1-216-090-00	METAL GLAZE	51K	5%	1/1OW
R232	1-216-055-00	METAL GLAZE	1.8K	5%	1/1OW		R364	1-216-748-11	METAL GLAZE	39K	5%	1/1OW
R233	1-216-097-00	METAL GLAZE	100K	5%	1/1OW		R365	1-216-094-00	METAL GLAZE	75K	5%	1/1OW
R301	▲.1-212-849-00	FUSIBLE	4.7	5%	1/4W F		R366	1-216-098-00	METAL GLAZE	110K	5%	1/1OW
R302	1-216-073-00	METAL GLAZE	10K	5%	1/1OW		R367	1-216-105-00	METAL GLAZE	220K	5%	1/1OW
R303	1-216-061-00	METAL GLAZE	3.3K	5%	1/1OW		R368	1-216-105-00	METAL GLAZE	220K	5%	1/1OW
R304	1-216-052-00	METAL GLAZE	1.3K	5%	1/1OW		R369	1-216-105-00	METAL GLAZE	220K	5%	1/1OW
R305	1-216-085-00	METAL GLAZE	33K	5%	1/1OW		R370	1-216-097-00	METAL GLAZE	100K	5%	1/1OW
R306	1-216-081-00	METAL GLAZE	22K	5%	1/1OW		R371	1-216-073-00	METAL GLAZE	10K	5%	1/1OW
R307	1-249-409-11	CARBON	220	5%	1/4W		R372	1-216-071-00	METAL GLAZE	8.2K	5%	1/1OW
R308	1-249-409-11	CARBON	220	5%	1/4W		R373	1-216-061-00	METAL GLAZE	3.3K	5%	1/1OW
R309	1-216-073-00	METAL GLAZE	10K	5%	1/1OW		R374	1-216-097-00	METAL GLAZE	100K	5%	1/1OW
R310	1-249-417-11	CARBON	1K	5%	1/4W		R375	1-216-097-00	METAL GLAZE	100K	5%	1/1OW
R311	1-216-129-00	METAL GLAZE	2.2M	5%	1/1OW		R376	1-216-049-00	METAL GLAZE	1K	5%	1/1OW
R312	1-249-437-11	CARBON	47K	5%	1/4W		R377	1-216-073-00	METAL GLAZE	10K	5%	1/1OW
R313	1-216-025-00	METAL GLAZE	100	5%	1/1OW		R378	1-216-097-00	METAL GLAZE	100K	5%	1/1OW
R314	1-249-409-11	CARBON	220	5%	1/4W		R379	1-216-049-00	METAL GLAZE	1K	5%	1/1OW
R316	1-216-073-00	METAL GLAZE	10K	5%	1/1OW		R701	▲.1-219-108-11	FUSIBLE	1.5	5%	1W F
R317	1-216-037-00	METAL GLAZE	330	5%	1/1OW		R702	1-249-423-11	CARBON	3.3K	5%	1/4W
R318	1-216-089-00	METAL GLAZE	47K	5%	1/1OW		R703	1-216-049-00	METAL GLAZE	1K	5%	1/1OW
R319	1-215-460-00	METAL	43K	1%	1/6W		R704	▲.1-219-109-11	FUSIBLE	3.9	5%	1W F
R320	1-216-081-00	METAL GLAZE	22K	5%	1/1OW		R705	▲.1-219-110-11	FUSIBLE	150	5%	1W F
R321	1-216-097-00	METAL GLAZE	100K	5%	1/1OW		R706	▲.1-219-110-11	FUSIBLE	150	5%	1W F
R322	1-216-073-00	METAL GLAZE	10K	5%	1/1OW		R707	1-249-425-11	CARBON	4.7K	5%	1/4W
R323	1-216-073-00	METAL GLAZE	10K	5%	1/1OW		R708	1-216-049-00	METAL GLAZE	1K	5%	1/1OW
R325	1-216-082-00	METAL GLAZE	24K	5%	1/1OW		R709	1-249-419-11	CARBON	1.5K	5%	1/4W
R332	1-216-081-00	METAL GLAZE	22K	5%	1/1OW		R710	1-216-071-00	METAL GLAZE	8.2K	5%	1/1OW
R333	1-216-748-11	METAL GLAZE	39K	5%	1/1OW		R711	1-216-055-00	METAL GLAZE	1.8K	5%	1/1OW
R334	1-216-083-00	METAL GLAZE	27K	5%	1/1OW		R712	1-216-077-00	METAL GLAZE	15K	5%	1/1OW
R335	1-216-092-00	METAL GLAZE	62K	5%	1/1OW		R713	1-216-013-00	METAL GLAZE	33	5%	1/1OW
R336	1-216-088-00	METAL GLAZE	43K	5%	1/1OW		R800	1-249-417-11	CARBON	1K	5%	1/4W
R337	1-216-099-00	METAL GLAZE	120K	5%	1/1OW		R801	1-216-073-00	METAL GLAZE	10K	5%	1/1OW
R338	1-216-089-00	METAL GLAZE	47K	5%	1/1OW		R802	1-216-121-00	METAL GLAZE	1M	5%	1/1OW
R339	1-216-090-00	METAL GLAZE	51K	5%	1/1OW		R803	1-216-055-00	METAL GLAZE	1.8K	5%	1/1OW
R340	1-216-089-00	METAL GLAZE	47K	5%	1/1OW		R804	1-216-065-00	METAL GLAZE	4.7K	5%	1/1OW
R341	1-216-091-00	METAL GLAZE	56K	5%	1/1OW		R805	1-216-049-00	METAL GLAZE	1K	5%	1/1OW

Note: The components identified by mark ▲ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description
R806	1-216-081-00	METAL GLAZE	22K	5%	1/10W	RV41A	1-228-989-00	RES, ADJ, CARBON 470
R807	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	RV41B	1-228-989-00	RES, ADJ, CARBON 470
R808	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	RV42	1-230-500-11	RES, ADJ, CARBON 220K
R809	1-249-393-11	CARBON	10	5%	1/4W	RV61A	1-228-989-00	RES, ADJ, CARBON 470
R810	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	RV61B	1-228-989-00	RES, ADJ, CARBON 470
R811	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	RV62	1-230-500-11	RES, ADJ, CARBON 220K
R812	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	RV101	1-228-995-00	RES, ADJ, CARBON 22K
R813	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	RV201	1-228-995-00	RES, ADJ, CARBON 22K
R814	1-249-393-11	CARBON	10	5%	1/4W	RY81	1-515-614-11	RELAY
R815	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	S11A	1-571-281-21	SWITCH, LEAF (HALF DET)
R816	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	S11B	1-571-281-21	SWITCH, LEAF (HALF DET)
R817	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S12B	1-571-281-21	SWITCH, LEAF (ERASE PROOF-SIDE A)
R818	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	S13B	1-571-281-21	SWITCH, LEAF (ERASE PROOF-SIDE B)
R819	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	S14A	1-571-281-21	SWITCH, LEAF (CrO2)
R820	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	S14B	1-571-281-21	SWITCH, LEAF (CrO2)
R824	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	S15B	1-571-281-21	SWITCH, LEAF (METAL)
R825	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	S301	1-554-798-31	SWITCH, SLIDE (ISS)
R826	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	S302	1-570-845-11	SWITCH, SLIDE (DOLBY ON/OFF)
R827	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	S801	1-554-303-21	SWITCH, KEY BOARD (DECK A □)
R828	1-216-089-00	METAL GLAZE	47K	5%	1/10W	S802	1-554-303-21	SWITCH, KEY BOARD (DECK A ▷)
R829	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	S803	1-554-303-21	SWITCH, KEY BOARD (DECK A △)
R830	1-216-089-00	METAL GLAZE	47K	5%	1/10W	S804	1-554-303-21	SWITCH, KEY BOARD (DECK A ◁)
R831	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	S805	1-554-303-21	SWITCH, KEY BOARD (DECK A ▷)
R832	1-216-089-00	METAL GLAZE	47K	5%	1/10W	S806	1-554-303-21	SWITCH, KEY BOARD (DECK B □)
R833	1-216-073-00	METAL GLAZE	10K	5%	1/10W	S807	1-554-303-21	SWITCH, KEY BOARD (DECK B ▢)
R834	1-247-895-00	CARBON	470K	5%	1/4W	S808	1-554-303-21	SWITCH, KEY BOARD (DECK B ▷)
R835	1-247-895-00	CARBON	470K	5%	1/4W	S809	1-554-303-21	SWITCH, KEY BOARD (DECK B △)
R836	1-216-041-00	METAL GLAZE	470	5%	1/10W	S810	1-554-303-21	SWITCH, KEY BOARD (DECK B ○)
R837	1-216-041-00	METAL GLAZE	470	5%	1/10W	S811	1-554-303-21	SWITCH, KEY BOARD (DECK B ◁)
R839	1-216-029-00	METAL GLAZE	150	5%	1/10W	S812	1-554-303-21	SWITCH, KEY BOARD (DECK B ▷)
R840	1-216-029-00	METAL GLAZE	150	5%	1/10W	S813	1-554-303-21	SWITCH, KEY BOARD (DECK B ●)
R841	1-216-029-00	METAL GLAZE	150	5%	1/10W	S814	1-554-303-21	SWITCH, KEY BOARD (AMS/BLANK SKIP)
R842	1-216-029-00	METAL GLAZE	150	5%	1/10W	S815	1-554-303-21	SWITCH, KEY BOARD(DUBBING SPEED:HIGH)
R843	1-216-029-00	METAL GLAZE	150	5%	1/10W	S816	1-554-303-21	SWITCH, KEY BOARD(DUBBING SPEED:NORMAL)
R844	1-216-037-00	METAL GLAZE	330	5%	1/10W	S818	1-570-835-11	SWITCH, SLIDE (DIRECTION MODE)
R845	1-216-041-00	METAL GLAZE	470	5%	1/10W	T81	1-433-337-11	TRANSFORMER, BIAS OSCILLATION
R846	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	X801	1-577-082-31	OSCILLATOR, CERAMIC (4MHz)
R847	1-216-073-00	METAL GLAZE	10K	5%	1/10W			
R848	1-216-073-00	METAL GLAZE	10K	5%	1/10W			
R849	1-249-412-11	CARBON	390	5%	1/4W			
R850	1-249-411-11	CARBON	330	5%	1/4W			
R852	1-249-412-11	CARBON	390	5%	1/4W			
R853	1-249-411-11	CARBON	330	5%	1/4W			
R854	1-249-415-11	CARBON	680	5%	1/4W			
R855	1-249-417-11	CARBON	1K	5%	1/4W			
R856	1-249-426-11	CARBON	5.6K	5%	1/4W			
R857	1-249-430-11	CARBON	12K	5%	1/4W			
R858	1-249-407-11	CARBON	150	5%	1/4W			
R859	1-249-409-11	CARBON	220	5%	1/4W			
R860	1-249-411-11	CARBON	330	5%	1/4W			
R861	1-249-413-11	CARBON	470	5%	1/4W			
R862	1-247-832-11	CARBON	1.1K	5%	1/4W			
R863	1-249-417-11	CARBON	1K	5%	1/4W			
R864	1-249-420-11	CARBON	1.8K	5%	1/4W			
R865	1-249-424-11	CARBON	3.9K	5%	1/4W			
R867	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			

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**Sony Corporation**  
Audio Group

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